



View of Waquoit Bay from a campsite on Washburn Island. (See Appendix G for photo information.)

## SECTION 5. WASHBURN ISLAND

### 5.1. INTRODUCTION

Washburn Island is located on the Falmouth side of Waquoit Bay. (Figure 5.1) The island, along with portions of South Cape Beach, forms a protective barrier that buffers the bay from the impacts of coastal storms. Between Washburn Island and South Cape Beach is a narrow channel, approximately 250–350 feet wide, that serves as the main entrance to the bay. Stone jetties line the channel’s entrance.

Historically, the island was alternately connected to, and isolated from, the mainland by coastal storms. In the mid-twentieth century an armored causeway and multiple bridges provided temporary connections. Today, Washburn Island is once again a true island, separated from the Falmouth mainland by a series of narrow waterbodies.

Washburn Island was acquired by the Commonwealth in 1983 for inclusion in the state park system. It is a seasonally-staffed park that draws boaters to its shores and campers to its woods. Access is limited; there is no commercial or public boat service. Those fortunate enough to visit

Washburn Island are rewarded with a unique recreational experience.

Washburn Island’s physical, political, and regulatory attributes are summarized below. (Table 5.1.1)

**Table 5.1.1. Physical, political, and regulatory settings of Washburn Island.**

Setting	Name or Metric
<b>Location:</b>	Falmouth
<b>Area (acres)<sup>a</sup>:</b>	284.68
<b>Perimeter (miles)<sup>a</sup>:</b>	7.89
<b>Landscape Designation(s)<sup>b</sup>:</b>	Reserve, Parkland
<b>Legislative Districts:</b>	
House	3rd Barnstable
Senate	Plymouth and Barnstable
<b>Regulatory Designations:</b>	Priority Habitat
	Waquoit Bay ACEC
	Outstanding Resource
	Waters – Waquoit Bay
	ACEC

a. Calculated using a Geographic Information System (GIS).

b. For a summary of DCR’s landscape designations, see <http://www.mass.gov/eea/docs/dcr/ld/ld-factsheet-final.pdf>.

# Washburn Island



**Associated Properties.** Washburn Island is part of Waquoit Bay National Estuarine Research Reserve. Other properties in the Reserve include WBNERR (Section 3), South Cape Beach (Section 4), and Quashnet Woods and associated watershed lands (Section 6).

## 5.2. NATURAL RESOURCES

There is little information on Washburn Island's natural resources. However, its plants and animals are believed to be a subset of those found elsewhere in Falmouth. An overview of the ecology of Waquoit Bay was presented in Geist (1996). A botanical inventory is currently underway.

### Physical Features

Washburn Island is located in the southwest corner of Waquoit Bay. It is approximately "L" shaped, with a north, central, and south section. (Figure 5.1) The central section, where a campground is located, is approximately 6,900 feet long. The north section, which is approximately 3,000 feet long, connects to the central section via a salt marsh and an approximately 75-foot-wide section of upland. The south section is perpendicular to the rest of the island, and is approximately 5,500 feet wide.



The northern and central portions of Washburn Island are connected by this saltmarsh and a narrow strip of upland. (See Appendix G for photo information.)

Elevations range from sea level at the beach and salt marshes to approximately 25 feet above sea level at the highest point on the island's north section. Elevations are lowest along Vineyard Sound.

## Water Resources

The island's water resources are largely estuarine; freshwater resources are uncommon. There are no rivers or streams on the island. A summary of these resources is provided in Table 5.2.1.

**Table 5.2.1. Water resources of Washburn Island.**

Water Resource	Name or Metric
<b>Watershed:</b>	Cape Cod
<b>Aquifer:</b>	Cape Cod SSA
Lens	n/a
<b>Rivers and Streams (miles)</b>	0.00
<b>Vernal Pools</b>	
Certified (#)	0
Potential (#)	1
<b>Wetlands (acres)</b>	30.27
<b>Lakes and Ponds (acres)</b>	4.58

a. Includes overlap with adjacent water bodies.

Much of the park is susceptible to flooding, hurricane inundation, and sea-level rise. (Table 5.2.2) Portions of the main trail, to the north and south of the campground are predicted to be impacted by a 100-year storm, as is the eastern edge of the campground.

A Category 1 hurricane is predicted to inundate nearly the entire southern end of the island as well as low-lying areas to the north. A Category 3 storm would inundate the entire campground and nearly the entire trail system.

The projected one-foot rise in sea-level will not directly affect the campground, but will flood trails in low-lying areas.

**Table 5.2.2. Potential impacts of flooding, hurricane inundation, and sea-level rise to Washburn Island.**

Type of Impact	Acres	%
<b>Flooding:</b>		
100-year Storm	212.31	74.58
500-year Storm <sup>a</sup>	243.74	85.62
<b>Hurricane Inundation:</b>		
Category 1 Storm	138.79	48.75
Category 2 Storm <sup>b</sup>	192.18	67.50
Category 3 Storm <sup>b</sup>	246.94	86.74
Category 4 Storm <sup>b</sup>	276.90	97.26
<b>Sea Level Rise</b>	54.17	19.03

a. Cumulative value; includes 100-year storm impacts.

b. Cumulative value; includes impacts of all lower category storms.





Predicted hurricane inundation of Washburn Island. Areas predicted to be inundated by Category 1 storms are represented in light green; additional areas inundated by Category 2, 3, and 4 storms are represented in dark green, yellow, and red, respectively. (See Appendix G for photo information.)

There are six barrier beaches; Fm-10 on the west side of the island, Fm-7 at the northernmost point, Fm-8 and Fm-9 to the east, and Fm-1 and Fm-11 to the south. The last two are the most extensive, constituting most of the island's frontage on Vineyard Sound.

### Rare Species

**State-listed Species.** Seven state-listed species are known from Washburn Island; two are also federally listed (Table 5.2.3)

**Table 5.2.3. State-listed species of Washburn Island, as identified by the NHESP.<sup>a, b</sup>**

Species <sup>a, b</sup>	Type <sup>c</sup>	MESA <sup>d</sup>
Bristly foxtail	P	SC
Common tern	B	SC
Eastern box turtle	R	SC
Least tern	B	SC
New England blazing star	P	SC
Piping plover <sup>e</sup>	B	T
Roseate tern <sup>f</sup>	B	E

a. Presented alphabetically, by common name.

b. Fact sheets are available at: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html>.

c. Types of state-listed species include: B = Bird; P = Plant; and R = Reptile.

d. Status of species listed under the Massachusetts Endangered Species Act (MESA): E = Endangered, SC = Special Concern; and T = Threatened.

e. This species is also federally threatened.

f. This species is also federally endangered.

### Priority Habitat

Much of Washburn Island (165.65 acres, 58.19%) is Priority Habitat. This includes the north and south ends of the island, as well as Eel Pond to the west and Waquoit Bay to the east. The entire beach adjacent to the campground is Priority Habitat.

### Vegetation

A multi-year floristic inventory of Washburn Island is currently underway.

Most of the island's forests are dominated by pitch pine; canopy oaks are less common. The southern barrier beaches, along Vineyard Sound, are dominated by American beach grass, salt spray rose, and eastern red cedar. Poison ivy is ubiquitous and abundant throughout the park.

**Invasive Species.** Five invasive and one likely invasive species are known from the island. (Table 5.2.4) The greatest concentrations occur along the former army road, to the west of Tim's Pond. Concentrations also occur in thickets along the barrier beaches.

**Table 5.2.4. Known invasive and likely invasive plants of Washburn Island.**

Species <sup>a</sup>	Status <sup>b</sup>
Black locust	I
Common reed	I
Japanese honeysuckle	I
Multiflora rose	I
Oriental bittersweet	I
Spotted knapweed	L

a. Presented alphabetically, by common name.

b. Plants are classified as being either Invasive (I) or Likely Invasive (L) according to MIPAG (2005).

### Natural Communities

Due to historic land use, the island is mostly covered by cultural, rather than natural, communities. Previously developed areas, including the campground, typically have an even-aged canopy of pitch pine and a ground cover of Pennsylvania sedge; vegetation is largely absent from the shrub and sub-canopy layers.



Historic land use, including agriculture and military development, has shaped the island's vegetation. (See Appendix G for photo information.)

Some natural community types have been identified. (Table 5.2.5) They tend to be associated with aquatic areas not prone to development, or occur in areas less impacted by previous land uses. The dunes along Vineyard Sound are intermediate between the Maritime Dune and Maritime Shrubland community types; invasives are abundant at this location.

Forest cover types have been classified and mapped for this property and for all others in the Reserve.

**Table 5.2.5. Known natural communities of Washburn Island.**

Community Type <sup>a</sup>	System <sup>b</sup>	State Rank <sup>c</sup>	Source <sup>d</sup>
Maritime Beach Strand	T	S3	1
Pitch Pine - Oak Forest <sup>e</sup>	T	S5	2
Salt Marsh	E	S3	3
Shrub Swamp	P	S5	3

a. Classified according to Swain and Kearsley (2011).

b. E = Estuarine, P = Palustrine, T = Terrestrial.

c. The NHESP ranks communities from most rare (S1) to the most common (S5).

d. Information contained in this table was obtained from the following sources:

1. RMP Planner.
2. Whiddon (2012a).
1. DEP Wetlands (1:12,000) data layer.

### Forests

Washburn Island is 53.27% forested. Non-forested areas include salt marsh and dunes. There are no CFI data for this property.

### Wildlife

No formal surveys have been conducted. However, because Washburn Island is a birding "hotspot," information exists on its birds. As of March 2015, 89 species were listed on eBird ([www.ebird.org](http://www.ebird.org)) for the island.

Raccoons are common and can be a nuisance for campers. Visitors are advised to secure their food containers and the composting toilet buildings to keep raccoons out.

## **5.3. CULTURAL RESOURCES**

This section describes the known and potential cultural resource areas, including pre-Contact and post-Contact archaeological resources, and historic buildings, structures, and landscapes. An overview of significant events in the history of Washburn Island is presented in Table 5.3.1. Cultural Resources are identified in Table 5.3.2.

**Table 5.3.1. Significant events in the history of Washburn Island; based on Keay (2005).**

Year(s)	Events
ca. 1850	Three working farms on island; grazing cattle and sheep present.
1893-1895	Washburn Island acquired by Henry Bryant, who built a three-story house there. A hand ferry linked the island to the mainland.
1912	Island is sold to a group of corporate investors following the death of Henry Bryant; 4.5 acres along the southern beach is sold and developed.
ca. 1912	Albert Henry Washburn and Florence Washburn acquire the remainder of the island. They construct a house stable, boathouse, pier, and a narrow-bridged causeway to the mainland.
1926	Fire destroys Washburn residence.
1938	Hurricane of 1938 washes out causeway that connected Washburn Island to the mainland.
ca. 1940	Federal government leases land around Waquoit Bay, including Washburn Island, for amphibious landing training; the island is reconnected to the mainland. The former causeway is rebuilt and a paved road constructed; a wooden bridge with water and fuel pipelines is later constructed.
ca. 1940	U.S. Army constructs a paved road network, parade grounds, obstacle course, docks, and five 12-foot by 900-foot piers.
1944	Military training activities are moved to Florida; demolition of Army facilities begins.
1945	Demolition of facilities halted; construction of a recreation and recovery center begins.
1946	Demolition of facilities resumes following end of World War II.
ca. 1950	Washburn Island returned to custody of Florence Washburn, who allows locals to use it for recreation.
1976	Washburn family offers to sell island to the Town of Falmouth, but fails to reach agreement with the town. Two successive development companies acquire a purchase option and begin development plans.
1983	Washburn Island is acquired by the Commonwealth via eminent domain.
1990	Seasonal island managers are hired to live on the island during the camping season, enforce regulations, and offer interpretive services. This practice continues today.

**Table 5.3.2. Cultural resources of Washburn Island.**

<b>Location and Resource</b>	<b>Type<sup>a</sup></b>	<b>Date<sup>b</sup></b>	<b>Condition<sup>c</sup></b>	<b>Integrity<sup>d</sup></b>	<b>In Use<sup>e</sup></b>	<b>Utilities<sup>f</sup></b>	<b>MHC #<sup>g</sup></b>	<b>Guidance<sup>h</sup></b>
WW2 era foundations, slabs, asphalt roads, and bridge abutments.	AR	1942-1945	6	L	-	-	-	1
<b>Additional Resources<sup>i</sup></b>								
<i>Former Bryant Estate sites</i>	AR	1894-1914	6	L	-	-	-	1
<i>Foundation, former Collins Home garage</i>	AR	c. 1912	6	L	-	-	-	1
<i>Indian occupation site</i>	AR	-	-	U	-	-	-	1
<i>Indian skull discovery site</i>	AR	-	-	U	-	-	-	1
<i>Washburn Family House site</i>	AR	early 20 <sup>th</sup> c	6	L	-	-	-	1
<i>Washburn Boat House site</i>	AR	early 20 <sup>th</sup> c	6	L	-	-	-	1

- a. Resource types include the following: AR = Archaeological; BU = Building; LA = Landscape; MHCA – Massachusetts Historic Commission Area; NRHD = National Register Historic District; OB = Object; and ST = Structure.
- b. Date of construction provided, when known.
- c. Building system and equipment condition codes as used in the Massachusetts Capital Asset Management Information System (CAMIS): 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.
- d. Integrity is a relative assessment of the condition of a resource's retention of its historic character-defining features; H = High; L = Low; M = Medium; and U = Unknown.
- e. Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.
- f. The following codes are used to identify utilities associated with buildings: E = Electric; H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.
- g. Massachusetts Historical Commission inventory number.
- h. The following guidance is offered for the ongoing maintenance of these cultural resources:  
1. Refer to Archaeological Features BMP (DCR n.d.k).
- i. Documented through the 1984/1985 Cultural Resources Evaluation Project but not yet field verified or confirmed.

### ARCHAEOLOGICAL RESOURCES

Artifacts from the island inventoried by professional archaeologists indicate Native American activity from Late Archaic times (ca. 6,000–3,000 years ago) through to the Late Woodland Period. The range of implements suggests the island served as a habitation site and possibly a lithic workshop. A pestle and pendent were also reported from one of the sites. In 1985 a burial, that of a 30 year old Native American woman was exposed in the dunes. If these people elected to bury their loved ones here, additional burial sites may be present. Washburn Island is considered highly sensitive for pre-Contact resources.

Ten pre-Contact sites are recorded on Washburn Island and three systematic archaeological surveys have been conducted on island (MHC Reports #1622, #3201, #3359).

### Historic Resources

In the 18<sup>th</sup> and 19<sup>th</sup> centuries, Washburn Island, and 'Menauhant' (the Native American name) was mostly cleared for livestock grazing and small scale agriculture. At the end of the 19<sup>th</sup> century businessman Henry Bryant purchased the island and built a grand summer cottage. The eclectic Colonial-Revival residence included a large barn and servant's quarters. In 1912, Bryant's widow sold most of the island to a group of investors including Albert Henry Washburn. The cottage was lost to fire in 1926, and the former estate fell into disrepair.

Between 1942 and 1944, the island served as the Camp Edward's Engineer Amphibian Command and became one of the Army's principle amphibious training grounds. Washburn Island has been referred to as "the cradle of our European invasion," as the men who trained on its shores went on to spearhead the assaults at Oran, Algeria; Salerno, Italy; and Normandy, France. Toward the end of the war, the base was used as an "R & R" center for convalescing

soldiers from nearby Camp Edwards. The island was acquired by the Commonwealth in 1983.

### Historic Landscapes

**World War Two Resources.** The island has become significantly overgrown with vegetation since the 1940s, however the collection of extant remains and road systems continue to exhibit the area's important role as a military training site. Although heavily obscured by growth, the main north-south road constructed during this period still retains integrity and is used as the general route of the island's main trail. Deteriorating concrete foundations and slabs located toward the northern and central portion of the island are associated with the WW2 era. The bridge abutment on the northwest shore of the island is also a remnant from the period. Some of these slabs may also be related to the post war convalescence center, though the Army contracted for the demolition and removal of most of the military infrastructure before transferring the property back to the Washburn Family. The remains of a corrugated metal shed on the north island may also be associated with this period.



Concrete slabs eroding into Waquoit Bay were once part of Washburn's military development. (See Appendix G for photo information.)

### Structures

The only potential remaining evidence of the Bryant summer estate is a concrete slab and exposed metal pipe. A circular concrete structure, possibly a cistern, is located in the area identified as the Washburn Family House site. A concrete slab and step at Collins Hill are most likely associated with the garage at the Collins summer home, which was allegedly moved to the mainland when beach

erosion undermined the foundation in the early 20<sup>th</sup> century.



Remains of the Collins summer house are visible along Washburn's southern shore. (See Appendix G for photo information.)

### Objects

There are no objects that are not associated with historic landscapes.

## **5.4. RECREATION RESOURCES**

There are two main recreational uses of Washburn Island; camping and day use by boaters.

There are 10 primitive camp sites located in the center of the island; none are accessible. (Table 5.4.1; Figure 5.1) The campground is open from May through mid-October. Campers must provide their own transportation to the island, cooking grills, and drinking water. A metal campfire ring, water bucket, and shovel are provided at each camp site. Composting toilets are stocked and operational from mid-May through mid-October; they are left open throughout the year.

**Table 5.4.1. Summary of camping resources at Washburn Island.**

Camping Resource	Number
<b>Camp Sites (total)</b>	<b>10</b>
Group sites <sup>a</sup>	1
Tent only <sup>b,c</sup>	9
<b>Comfort Stations<sup>d</sup></b>	<b>3</b>

- Maximum allowable occupancy of 25 campers and 10 tents per night.
- Maximum allowable occupancy of four campers and two tents per night, per site. As of 2015, two tent
- Two sites are reserved for campers arriving by kayak.
- Composting toilets, only two are in use at any given time.



Despite boat only access, occupancy rates are relatively high. (Table 5.4.2) A total of 1,274 registered campers stayed on Washburn Island in 2013.

**Table 5.4.2. Campsite occupancy rates, by type, at Washburn Island.**

Campsite Type	Percent
Group	64.6
Tent only	66.5
<b>Total</b>	<b>66.3</b>

Campers are overwhelmingly from Massachusetts and contiguous states. (Table 5.4.3)

**Table 5.4.3. Common geographic origins of campers staying at Washburn Island.<sup>a</sup>**

Geographic Origin	Percent
Massachusetts	91.4
Connecticut	2.6
New Hampshire	1.1
Rhode Island	1.1
<b>Total</b>	<b>96.2</b>

a. Only states and provinces with one or more percent of total camping registrations are included.

Campers also typically swim, sunbathe, beach comb, and walk the island's trails during their stay.

Day use by boaters is more common than camping. During July, the number of day use visitors to Washburn Island may exceed 1,200 per week. During the same period, campers number approximately 300 per week.

Boaters typically anchor in the calm waters of Waquoit Bay, along the island's south shore. They use the island for swimming, sunbathing, and picnicking. Some use the trail system to explore the island or to travel to the composting toilets in the campground.



Day use visitors' boats line the shore of Washburn Island.

The following recreation activities are known to occur at Washburn Island.

- Camping
- Fishing, fin fish
- Fishing, shellfish
- Geocaching (2 caches as of March 2015)
- Hiking/walking
- Hunting
- Kayaking
- Nature study
- Picnicking
- Sun bathing
- Swimming

## 5.5. INFRASTRUCTURE

There is little non-historic infrastructure. (See Table 5.5.1)

### Property Boundary

The park is bounded on the south by Vineyard Sound, on the west by Eel Pond and the Seapit River; and on the north and east by Waquoit Bay. The boundaries are conspicuous, constantly changing, and unmarked.

**Table 5.5.1. Non-historic buildings of Washburn Island.**

Infrastructure	Date <sup>a</sup>	Condition <sup>b</sup>	In Use <sup>c</sup>	Utilities <sup>d</sup>
Composting toilet buildings (3)	-	2	S	E

- a. Building system and equipment condition codes as used in the Massachusetts Capital Asset Management Information System (CAMIS): 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.
- b. Date of construction provided, when known.
- c. Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.
- d. The following codes are used to identify utilities associated with buildings: E = Electric; H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.



The Seapit River borders the northwest corner of the island; residential development is within 250 to 500 feet. Commercial oyster production occurs just offshore. (See Appendix G for photo information.)

The Commonwealth holds a deeded interest in a 4-foot wide way along the southwest boundary of a private residence at 28 Nichols Road, Falmouth. This interest was established in 1897 to allow owners of land on Washburn Island access between Nichols Road and Waquoit Bay (Book 231, Page 308). This right transferred with land ownership to the Commonwealth. A 1991 agreement between the Commonwealth and the then residents of 28 Nichols Road formalized the terms of access (Document Number 523650).

### Buildings and Structures

There are only three buildings, all are self-contained composting toilets. (Table 5.5.1) Two are equipped with solar powered ventilation fans.

Eight sets of wooden steps provide access to the campground from the island's eastern shore. Coastal erosion has undermined and destabilized some of the stairs. An additional set of steps is located on the Eel Pond side of the portage trail. (See Trails, below.)



Stairs from the shore to campsites are repeatedly undermined by storms, resulting in an ongoing maintenance need. (See Appendix G for photo information.)

### Roads

Only historic roads exist; they are associated with the past military use. (See Section 5.3 Cultural Resources for more information.) This road is largely overgrown, and is classified as a trail. (See Table 5.5.2.)



This former military road runs much of the island's length, forming the basis for its trail system. (See Appendix G for photo information.)

## Parking

There is no parking on Washburn Island. Campers are advised to park their vehicles and boat trailers at the Town of Falmouth's nearby White's Landing.

## Trails

Washburn's trail system incorporates the existing road and paths. There are two major components to the system: the main trail and the campground loop. The main trail runs approximately north-south through the main part of the island, over the remnants of a paved military road. The campground loop is a small nested loop system that connects to the main trail. Trails are identified with triangular blue plastic markers; intersections are identified with wooden signs identifying destinations and distances. The condition of the island's trails is identified in Table 5.5.2.

**Table 5.5.2. Condition and length of official trails at Washburn Island.**

Trail Condition	Length (Miles)
Good	2.10
Fair	0.00
Poor	0.00
<b>Total</b>	<b>2.10</b>

A short (97-foot), portage trail allows kayakers to carry their crafts cross the island from Eel Pond to Tim's Pond, avoiding the rougher waters of Vineyard Sound.



A sign along the island's western shore directs kayakers to the Tim's Pond Portage. (See Appendix G for photo info.)

## Kiosks and Signs

Sign boards are located at every access point to the campground. They identify the beach as being for

use by campers; provide information on Washburn Island and the entire reserve; and list campground rules.

Trail signs are located at intersections.

## Iron Ranger

There is no iron ranger.

## Memorials and Markers

There are no known memorials or markers.

## 5.6. INTERPRETATION

Island Managers provide interpretation on an ad-hoc basis. There are no formal programs.



A seasonal Island Manager engages visitors at their camp site, providing information on the history and ecology of Washburn Island. (See Appendix G for photo information.)

## 5.7. MANAGEMENT RESOURCES

### Staffing

#### DCR Personnel

Washburn Island is seasonally staffed (Table 5.7.1). Each Island Manager lives and works on-island five days and four nights per week, from May through mid-September. Although they work at Washburn Island, they are administratively associated with South Cape Beach. They are supervised by the Reserve's Stewardship Coordinator.

**Table 5.7.1. Mass Parks personnel assigned to Washburn Island.**

Job Title	Number of Positions <sup>a</sup>
<i>Seasonal Personnel</i>	
Forest and Park Supervisor I (Short-term)	3

a. Number of position is based on 2014 staffing levels.

### Partnerships and Volunteers

The Waquoit Bay Reserve Foundation was established to support the Reserve through fundraising and volunteerism. Their activities cover all four parks within the Reserve, including Washburn Island. (See Section 3.7 for additional information on the WBRF.)

### Public Safety

The Falmouth Fire and Police departments provide fire response, emergency services, and law enforcement.

### Funding

#### Conservation Trust Fund

There are no funds in the Conservation Trust Fund dedicated to Washburn Island.

#### Retained Revenue

The 2013 camping season generated \$10,400 in revenue.

#### Other Revenues

There are no other revenues.

## **5.8. MANAGEMENT PRACTICES**

Management of DCR properties is guided by a variety of regulations, policies, BMPs legal agreements, and institutional knowledge. Legal agreements unique to the park are presented in Table 5.8.1.

**Table 5.8.1. Key legal agreements for Washburn Island.**

<b>Party and Subject of Agreement</b>	<b>Type<sup>a</sup></b>	<b>Expiration Date<sup>b</sup></b>
<b>DEM and Geoffrey M. and Deborah G. Converse.</b> Right of Access across 28 Nichols Way, Falmouth. (Doc # 523650)	A	None
<b>National Oceanic and Atmospheric Administration</b> State and federal roles in management of WBNERR.	U	None
<b>Waquoit Bay Reserve Foundation</b> Support for mission of WBNERR.	A	2018

a. Agreement types include: A=Memorandum of Agreement; and U=Memorandum of Understanding.

b. Year that agreement expires. Permanent agreements are indicated by an expiration date of "None."

Key management and guidance documents are presented in Table 5.8.2.

**Table 5.8.2. Key management and guidance documents for Washburn Island.**

<b>Author and Document</b>	<b>Year</b>
<b>Gannet Fleming, Inc.</b> Environmental Audit Report, Washburn Island, Falmouth, Massachusetts.	1998
<b>Waquoit Bay National Estuarine Research Reserve</b> Emergency operations plan for the Waquoit Bay National Estuarine Research Reserve.	2012
<b>Whiddon, A. J.</b> Prescribed fire plan. Administrative Unit(s): Waquoit Bay National Estuarine Research Reserve.	2012 <sup>a</sup>
<b>Waquoit Bay National Estuarine Research Reserve</b> Hurricane preparedness and response plan for the Waquoit Bay National Estuarine Research Reserve. 2013.	2013
<b>Waquoit Bay National Estuarine Research Reserve</b> Waquoit Bay National Estuarine Research Reserve; Management Plan; 2013-2017.	2014



The 2014 Management Plan (WBNERR 2014) covers all properties in the Reserve, and addresses Reserve research, education program, and staffing in detail. It does so from the perspective of the National Estuarine Research Reserve System. This plan is updated every five years, per NOAA requirements.

### Advisory Committees

The following advisory committee provides input on matters of policy and operations of the Reserve, including Washburn Island:

- Waquoit Bay National Estuarine Research Reserve Advisory Committee

Additional information on this committee may be found in WBNERR (2014).

### Research Activities

The Reserve has a formal registration procedure for research activities; it is administered by the Research Coordinator and Assistant Research Coordinator. Research on Washburn Island is governed by this process. See Section 3.8 for additional information.

### Annual Maintenance

Ongoing management practices typically follow a regular schedule. Common activities, and the desired frequency with which they occur, are identified in Table 5.8.3.

**Table 5.8.3. Annual cycle of management activities at Washburn Island.**

Activity	Spring <sup>a</sup>	Summer <sup>a</sup>	Fall <sup>a</sup>	Winter <sup>a</sup>
Cleaning - Campsites, grills, fireplaces	D1	D1	D1	N/A
Composting toilet maintenance	D1	D1	D1	N/A
Litter removal - Beaches, parking lots, walkways	D	D	AN	N/A
Litter removal - Trails	AN	AN	AN	N/A
Mowing and trimming	AN	AN	AN	N/A
Mulching and fertilizing	N/A	N/A	N/A	N/A
Pruning - Trees and shrubs	AN	AN	AN	N/A

a. Frequency codes are: A1 = Once annually; AN = As needed; D = Daily, # times; E = Every # days; N/A = Not applicable.

## Natural Resources

### Water Resources

With the exception of areas being actively managed for nesting beach-nesting birds, pedestrian access over dunes is not restricted.

There is no management plan for the island's six barrier beaches.

### Rare Species

Populations of beach-nesting birds are managed and monitored by the Massachusetts Audubon Society under a statewide contract, in accordance with state and federal standards. This includes searching for nests, working with DCR to close portions of the beach and dunes critical to shorebird protection, installing symbolic fencing and educational signs, educating park visitors, monitoring nesting and fledging success, and removing signs and symbolic fencing at the end of the nesting season.

A prescribed fire plan exists for Washburn Island (Whiddon 2012a); it was approved by the NHESP (Review # 14-33080). One of the stated goals is "to conserve, protect, and enhance the habitat of northern blazing star and other special concern species that rely on grasslands, coastal heathlands, and pitch pine open vegetation structure." Implementation of this plan is the responsibility of the Bureau of Forest Fire Control and Forestry, in coordination with the Reserve's Stewardship Coordinator.

### Invasive Species

There is no systematic invasive species monitoring or management at this park.

### Vegetation

Vegetation management is limited to that associated with trail maintenance, downed trees, hazard trees, and the creation and maintenance of fire breaks. Downed and hazard tree management, and fire break creation and maintenance are performed by the Reserve's Stewardship Coordinator.

Fertilizers are not used on Washburn Island.

## Cultural Resources

There are no management activities unique to this park.

## Recreation Resources

Island Managers live on-site, in primitive camping conditions, around the clock, for multiple days at a time. All materials, supplies, and trash must be transported by boat. These conditions are unique to Washburn and DCR campgrounds in Boston Harbor Islands State Park.

## Infrastructure

Given the lack of infrastructure, there are few infrastructure-related management practices.

### Buildings

Composting toilets require special maintenance. During the camping season, Island Managers add wood chips to the toilets and mix the compost several times per week. This requires opening an access panel to the toilet's compost bin, lying on the ground with arms extended forward, and circulating the compost with a rake and shovel. One of the three composting toilets is out of service at all times, to allow materials to compost. In periods of heavy use, the rate of composting cannot keep up with the rate of input.



Composting toilets in Washburn's campground protect the groundwater, but are labor intensive to maintain. Levels of use often exceed their capacity. (See Appendix G for photo information.)

Although intensively managed during the camping season, there is no ongoing long-term maintenance of the toilets. Compost accumulates over the years, decreasing the volume available for additional input, until the toilets can no longer be used. The physical

removal, transfer off-island, and disposal of composted materials are periodically needed, although they have only occurred once since the toilets were installed. The island's remote location, coupled with the unusual nature of the task, makes it difficult to find a vendor.

### Roads

There is no road maintenance.

### Parking Areas

The recommended parking area for campers' vehicles is White's Landing, which is owned and managed by the Town of Falmouth.

### Trails

Trails are maintained by the Island Managers, as needed and as time and resources permit. Gas-powered string trimmers are periodically transported to the island and used to trim vegetation along trail edges. Because portions of the main trail and campground loop are located within Priority Habitat, NHESP review is required before any work may be performed in these areas.

### Kiosks and Signs

Island Managers are responsible for maintaining signs. Informational signs adjacent to the camping areas are taken down in the fall and reinstalled in the spring.

## 5.9. RECOMMENDATIONS

### Introduction

This section provides recommendations for the near- and long-term management of Washburn Island. Applied Land Stewardship Zoning recommendations provide general guidance for managing South Cape Beach. Future activities and projects should be checked against the zoning map (Figure 5.2) for consistency. Management recommendations are all high-priority, and should be addressed as soon as resources become available.

### Applied Land Stewardship Zoning (Figure 5.2)

The following Land Stewardship Zoning is recommended for Washburn Island.



### Zone 1

The following sections of Washburn Island have been designated Zone 1.

- All barrier beaches.
- All salt marshes.

### Zone 2

- All areas that are not barrier beaches or salt marshes are designated Zone 2.

### Zone 3

- No portion of the park has been designated Zone 3.

### Significant Feature Overlay

The following Significant Feature Overlay was developed to protect state and federally listed beach-nesting birds.

- Rare Shorebird Significant Feature Overlay, with NHESP management guidelines. This overlay covers piping plover nesting and foraging areas, and common and least tern

nesting areas. Beach and dune closures within this overlay area may occur as needed and may expand or contract over time.

### **Management Recommendations**

Six priority management recommendations were developed for Washburn Island. (Table 5.9.1) For a recommendation to be considered priority it must address one or more of the following criteria:

- Regulatory compliance or compliance with legal agreements.
- Threats to the health and safety of park visitors and employees.
- The imminent loss of a natural, cultural, or recreation resource.

Additional maintenance and management needs observed during the preparation of this RMP, but not meeting one or more of the above criteria, are not included in this plan.

The following recommendations are of equal priority.

**Table 5.9.1. Priority recommendations for Washburn Island.**

<b>Recommendation</b>	<b>Implementation<sup>a</sup></b>
Continue ongoing rare shorebird monitoring and management activities.	C, P
Submit trail maintenance activities in Priority Habitat to NHESP for review under MESA.	R
Prevent pedestrians from crossing dunes on the southern barrier beaches through the limited use of symbolic fencing and signs.	P, R
Prepare a barrier-beach management plan.	P, R
Replace damaged steps from beach to campground.	R
Develop and implement a strategy for the long-term maintenance of composting toilets.	R

- a. The following codes identify the party or parties responsible for implementing the recommendations: B = Bureau of Ranger Services; C = Contractor; E = Division of Engineering; F = Bureau of Forest Fire Control and Forestry; L = Legal Services; O = Other; P = Bureau of Planning and Resource Protection; R = Regional and district staff; U = Universal Access Program; V = Volunteer or partner; and X = Office of External Affairs and Partnerships.